

WHAT IS CLAIMED IS:

1. A device, comprising:

a first port to allow the device to communicate with other devices on an expansion bus;

5 a second port to allow the device to communicate with devices on a second bus;

a memory to store data; and

a processing element to:

receive a read request from an expansion device to a predetermined area of system memory;

10 transmit read request to the system memory;

receive descriptor data from the system memory;

parse the descriptor data from the system memory to determine a data size;

prefetch data of the data size from the system memory.

2. The device of claim 1; the memory further comprising a hash table in which to store
15 packet addresses and lengths parsed from the descriptor data.

3. The device of claim 1, the second bus further comprising a system bus.

4. The device of claim 1, the second bus further comprising an expansion bus.

5. The device of claim 1, the device further comprising a network device.

6. The device of claim 1, the device further comprising an application specific integrated
20 circuit.

7. The device of claim 1, the expansion device further comprising a network interface card.

8. A method of processing bus transactions, comprising:

receiving a read request from an expansion device for a predetermined area of a system memory;

25 transmitting the read request to the system memory;

receiving descriptor data from the system memory;

parsing the descriptor data to identify a data size;

prefetching data having the data size from the system memory.

9. The method of claim 8, the method further comprising storing a data size and data address derived from the descriptor data in a hash table.

5 10. The method of claim 8, prefetching data further comprising:

receiving a read request from the expansion device;

identifying the address for the read as not belonging to a preconfigured area of system memory;

accessing the transmit size from the descriptor data found in a hash table ;

10 issuing a read request to the system memory, wherein the read request has a request size based upon the transmit size; and

transmitting data received in response to the read request to the system memory to the expansion device.

11. The method of claim 8, the method further comprising disconnecting from the system
15 memory once the data is received from the system memory.

12. The method of claim 8, the method further comprising storing any prefetched data remaining for a read request if the expansion device disconnects.

13. The method of claim 10, accessing the transmit size further comprising accessing a hash table stored within which are the descriptor data, including packet address and length.

20 14. The method of claim 8, the method further comprising discarding any prefetched data not transmitted to expansion devices after a programmable amount of time.

15. The method of claim 9, the method further comprising:

determining that the memory to store descriptors is full; and

discarding an oldest descriptor entry.

25 16. A device, comprising:

a means for allowing the device to communicate with other devices on an expansion bus;

a means for allowing the device to communicate with devices on a second bus;

a means for storing data; and

5 a means for:

receiving a read request from an expansion device to a predetermined area of system memory;

transmitting read request to the system memory;

receiving descriptor data from the system memory;

10 parsing the descriptor data from the system memory to determine a data size;

prefetching data of the data size from the system memory.

17. The device of claim 16, the means for storing further comprising a hash table in which to store packet addresses and lengths parsed from the descriptor data.

18. The device of claim 16, the device further comprising a network device.

15 19. The device of claim 16, the device further comprising an application specific integrated circuit.

20. The device of claim 16, the expansion device further comprising a network interface card.

21. An article of machine-readable code containing instructions that, when executed, cause the machine to:

20 receive a read request from an expansion device for a predetermined area of a system memory;

transmit the read request to the system memory;

receive descriptor data from the system memory;

parse the descriptor data to identify a data size; and

25 prefetch data having the data size from the system memory.

22. The article of claim 21, the instructions further causing the machine to store the descriptor data in a local memory.

23. The article of claim 21, the instructions causing the machine to prefetch data further causing the machine to:

5 receive a read request from the expansion device;
 access the transmit size from the descriptor data;
 issue a read request to the system memory, wherein the read request has a request size based upon the transmit size; and
 data received in response to the read request to the system memory to the expansion
10 device.

24. The article of claim 21, the instructions further causing the machine to disconnect from the system memory once the data is received from the system memory.

25. The article of claim 21, the instructions further causing the machine to store any prefetched data remaining for a read request if the expansion device disconnects.

15 26. The article of claim 23, the instructions causing the machine to access the transmit size further causing the machine to access a hash table stored within which are the descriptor data, including descriptors, packet length and addresses, for each set of data.

27. The article of claim 21, the instructions further causing the machine to discard any prefetched data not transmitted to expansion devices after a programmable amount of
20 time.

28. The article of claim 21, the instructions further causing the machine to:
 determine that the memory to store descriptors is full; and
 discard an oldest descriptor entry.